



## BHCTP Monthly Discharge Monitoring Report

901 S Division  
Pinehurst, ID 83850  
Office 208/682-9190  
Fax 208/682-2737  
[www.ferguson-contracting.com](http://www.ferguson-contracting.com)

Month: January-15

Facility: Central Treatment Plant

Location: Bunker Hill Superfund Site

Contract Number: W912DW-13-C-0026-P00006

Total Flow For The Month From 006 Outfall:	60,241,700	gallons
Sludge pumping to CIA sludge pond:	1,845,000	gallons

<u>Total Flow From Kellogg Tunnel:</u>	58,440,540	gallons
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Percent of Influent Successfully Treated: 100.0%

13 sample days \* 6 parameters (Pb, Cd, Zn, Mn, TSS & pH) = 78 potential exceedances  
**78 - 0 exceedances = 78      78/78 = 100%**

### Results of Sampling Efforts:

All sampling has been performed in accordance with specifications and the Sampling and Analysis Plan. QC and QA samples have been taken as required. All sample analysis results may be found within this DMR.

Performance Evaluation (PE) sampling for the CTP continued, with five PE samples delivered to SVL for this reporting period. The PE samples were identified as CTPXX (random CTP sites). These samples consisted of preserved 500-ml trace metal samples to be analyzed for Cd, Pb and Zn. The PE acceptable quantitation range is listed on the 'QC' page of this DMR.

Trip blank and rinsate samples were also taken, with the results being reported on the 'PTM-004,RB,TB' page of this DMR.

### Highlights of Plant Maintenance and/or Plant Optimization:

**01-01-15** Performed monthly fire extinguisher inspection. All CTP fire extinguishers are fully charged and in good working condition at this time.

**01-01-15** Performed monthly pump and motor inspection. All CTP pumps and motors are in good condition at this time.

**01-01-15** Increased the CTP operating pH set point from 8.3 to 8.4 in an attempt to reduce the treated outfall zinc levels. Currently the outfall zinc levels are about 0.7 mg/L.

**01-06-15** FLSmith/Eimco representative was on-site to perform a Clarifier drive inspection and oil leak investigation. The drive unit inspector could not provide a definitive reason for the oil leak at this time. He will discuss the oil leak with other company engineers and submit a full report to FCI.

**01-08-15** Balancing Services was on-site to perform the quarterly pump and motor preventative maintenance inspection. Balancing Services provided a complete report indicating that all pumps and motors are in excellent condition at this time. The Rapid Mix Tank motor vibration readings decreased with the installation of the new sure-flex coupler. The Aeration Basin drive motor vibration readings also decreased after installing the new mixing disc.

**01-08-15** Operators performed a six-month switch-over from lime loop #1 to lime loop #2. Slaker A was also placed in standby mode with slaker B brought into service. Lime silo A will be the standby silo and silo B is now the primary-use lime silo.

**01-12-15** Operators discovered oil in the KT discharge flow. The mine manager was notified and sent mine personnel into the mine to investigate. CTP operators installed oil absorbent booms in the KT flume and the CTP Aeration Basin influent area. Oil absorbent booms were also installed at the Aeration Basin effluent to prevent oil from entering the Clarifier and CTP discharge. Additional absorbent booms were ordered as the on-hand inventory was depleted. All oil absorbent booms and socks were removed on January 13th. No oil was visible in the KT flow or CTP flow.

**01-13-15** CTP process pH set point was reduced from 8.4 to 8.3 as discharge zinc levels have returned to seasonable levels of approximately 0.2 mg/L.

**01-15-15** Chief Operator, Process Engineer and Project Manager attended the monthly process meeting. Process quality, plant operations, contract period reports, OMER projects and operator work schedules were reviewed. pH set point reduction on October 3rd was discussed. Treated outfall sampling was reviewed. The CTP treatment process is producing excellent discharge quality at this time. The pH set point was reduced to 8.3.

**01-16-15** 23:30 operators responded to an auto dialer callout. The flocculent injection pump had stopped. The pump was reset and operated at an increased speed for a few minutes to dislodge the blockage. Pump was returned to the normal pump setting with no further issues.

**01-24-15** Lined storage pond pump house heater was repaired by the electrician. Pump house heater is now in good working condition. CTP operators removed temporary heaters from the pump house.

**01-27-15** Operators prepared for AMD line cleaning. Pumps and hoses were set up in the Bunker Hill mine yard. The rain and storm water was pumped from all AMD line access vaults.

**01-27-15** Operators performed the monthly full load emergency generator run test. The emergency generator operated all CTP components for one hour as programmed with no issues.

**01-28-15** Biannual AMD main line cleaning was performed. Three cleaning units were sent through the entire main line from the mine yard to the lined storage pond. The AMD line cleaning report was submitted to the USACE COR on January 28th.

**01-29-15** BH Mine purchased and installed a replacement primary mine pool pump on Level 11. It is assumed that this new pump rate is 700 gpm. Combined with the known gravity flow rate of 800 gpm, at this time the total KT discharge rate is 1500 gpm. It is estimated that the KT discharge could now total 1800-1900 gpm with both mine pool pumps and the gravity flow of 800 gpm. CTP operators will verify and report the mine pumping scenarios during the next scheduled KT discharge sampling event.

During this reporting period:

- The Kellogg Tunnel discharge flow increased by 2% from January 2014, from 57.5 mg to 58.4 mg.
- The Kellogg Tunnel zinc concentration increased by 12% from January 2014, from an average of 41 mg/L to 46 mg/L.
- The CTP operating pH set point was reduced from 8.4 to 8.3.
- The flocculent dosage remained at approximately 2 ppm.
- The CTP sludge recycle rate remained at 400 gpm.
- CTP operators received one off-shift auto dialer call-out alarm associated with the flocculent injection pump.
- CTP operators performed five pumping events from the Lined Storage Pond.
- CTP operators performed Aeration Basin pH probe and grab sample verification twice per day.

#### Lessons Learned

No significant lessons to report for last month.

MONITORING PERIOD					
YEAR	MO	DAY	YEAR	MO	DAY
2015	1	1	2015	1	31

PARAMETER		Quantity or Loading			Quality or Concentration				FREQUENCY OF ANALYSIS	SAMPLE TYPE
		MONTHLY AVERAGE	DAILY MAXIMUM	UNITS	MINIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS		
pH	Sample Measurement				6.9		7.3		Continuous	Meter
	Permit Required				6.0		10.0			
Flow Thru Treatment Plant	Sample Measurement	1.95	2.41	mgd						
	Permit Required		Daily							
Lead Total - Pb Effluent	Sample Measurement	0.06	0.08	lbs/day		0.004	0.01	mg/L	three samples/ week	Comp 24
	Permit Required	14.8	37.0			0.30	0.60	mg/L		
Zinc Total - Zn Effluent	Sample Measurement	4.64	8.53	lbs/day		0.29	0.62	mg/L	three samples/ week	Comp 24
	Permit Required	36.2	91.3			0.73	1.48	mg/L		
Cadmium - Cd Effluent	Sample Measurement	0.093	0.148	lbs/day		0.006	0.011	mg/L	three samples/ week	Comp 24
	Permit Required	2.40	6.10			0.050	0.100	mg/L		
Manganese - Mn Effluent	Sample Measurement	425.6	577	lbs/day		26.5	37.2	mg/L	three samples/ week	Comp 24
	No Permit Required					N/A	N/A	mg/L		
Total Suspended Solids - TSS	Sample Measurement	19.8	31	lbs/day		1.2	1.6	mg/L	three samples/ week	Comp 24
	Permit Required	985	1907			20	30	mg/L		

PREPARED BY: GARY FULTON

REVIEWED BY: Mark Reinsel, Ph.D., P.E.

**NPDES DISCHARGE POINT 006**  
**CENTRAL TREATMENT PLANT**  
**MONTH: Jan-15**

DAY	LEAD (Pb)		ZINC (Zn)		CADMIUM (Cd)		MANGANESE (Mn)		pH	FLOW (mgd)	TSS		LOADING kg/day
	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day			mg/L	lbs/day	
1											1.82		
2	0.004	0.05	0.616	8.53	0.011	0.15	37.2	515	7.04	1.66	1.6	22	10
3											1.73		
4											1.62		
5	0.004	0.06	0.407	5.94	0.007	0.10	31.7	463	7.04	1.75	1.4	20	9.3
6											1.78		
7	0.005	0.08	0.353	5.77	0.006	0.10	27.2	445	7.05	1.96	1.4	23	10.4
8											2.24		
9	0.004	0.07	0.212	3.82	0.005	0.09	27.0	487	7.21	2.16	0.8	14	6.5
10											2.25		
11											2.27		
12	0.004	0.07	0.180	3.16	0.004	0.07	28.6	501	7.10	2.10	1.0	18	8.0
13											1.73		
14	0.004	0.05	0.205	2.74	0.004	0.05	26.4	353	7.05	1.60	0.6	8.0	3.6
15											1.60		
16	0.004	0.08	0.299	6.01	0.007	0.13	22.2	446	7.12	2.41	1.2	24	11
17											2.18		
18											1.62		
19	0.004	0.05	0.303	4.21	0.007	0.09	22.6	314	7.28	1.67	1.4	19	8.8
20											2.06		
21	0.004	0.07	0.193	3.51	0.006	0.11	16.9	307	6.96	2.18	1.0	18	8.3
22											2.38		
23	0.004	0.07	0.188	3.40	0.005	0.09	15.2	275	6.94	2.17	1.6	29	13
24											2.07		
25											2.22		
26	0.004	0.07	0.243	4.34	0.005	0.08	32.3	577	7.00	2.14	1.2	21	10
27											2.19		
28	0.004	0.04	0.266	2.89	0.005	0.05	30.9	335	7.00	1.30	0.8	8.7	3.9
29											1.65		
30	0.004	0.07	0.315	6.03	0.005	0.10	26.8	513	6.95	2.29	1.6	31	13.9
31											1.67		
Total	0.051	0.82	3.78	60.36	0.07	1.21	345.00	5533	91.7	60.46	15.60	257.0	116.6
Sample Events	13	13	13	13	13	13	13	13	13	31	13	13	13
Daily Average	0.004	0.06	0.29	4.64	0.006	0.09	26.5	425.6	7.06	1.95	1.20	19.77	8.97
Lab Detection Limit	<b>0.004</b>	<b>0.003</b>		<b>0.001</b>		<b>0.004</b>		<b>0.010</b>		<b>0.800</b>			
MIN	0.00	0.04	0.18	2.74	0.00	0.05	15.20	275.25	6.94	1.30	0.60	8.02	3.64
MAX	0.01	0.08	0.62	8.53	0.01	0.15	37.20	576.82	7.28	2.41	1.60	30.63	13.89

**KELLOGG TUNNEL DISCHARGE**  
**CENTRAL TREATMENT PLANT**  
**MONTH: Jan-15**  
**Data from SVL**

DAY	LEAD (Pb) mg/L	ZINC (Zn) mg/L	CADMIUM (Cd) mg/L	MANGANESE (Mn) mg/L	pH	006 FLOW mgd	TSS mg/L	DAILY MASS LOADING kg/day
1	0.506	36	0.065	79	3.40	1.82	63	434
2						1.66		
3						1.73		
4	0.524	45	0.090	68	3.16	1.62	70	430
5						1.75		
6						1.78		
7						1.96		
8	0.467	38	0.068	74	3.47	2.24	63	534
9						2.16		
10						2.25		
11	0.507	40	0.070	75	3.43	2.27	62	532
12						2.10		
13						1.73		
14						1.60		
15	0.535	56	0.093	63	3.11	1.60	73	442
16						2.41		
17						2.18		
18						1.62		
19	0.531	53	0.094	61	3.08	1.67	71	447
20						2.06		
21						2.18		
22	0.495	39	0.072	76	3.30	2.38	63	568
23						2.17		
24						2.07		
25						2.22		
26	0.508	39	0.073	74	3.34	2.14	64	518
27						2.19		
28						1.30		
29	0.941	64	0.130	27	2.97	1.65	30.0	187
30						2.29		
31						1.67		

**PTM Effluent at Lined Storage Pond  
CENTRAL TREATMENT PLANT**

**Month: Jan-15**

DATE	LEAD mg/L	ZINC mg/L	CADMIUM mg/L	pH s.u.	TSS mg/L
01/08/15	0.024	1.0	0.98	7.34	0.8
01/22/15	0.042	10.1	1.07	7.39	0.8

**RINSATE AND TRIP BLANKS  
CENTRAL TREATMENT PLANT**

**Month: Jan-15**

**Rinsate and Trip Blank samples will be taken approximately every 20 QC events, or one each per month.**

LOCATION	DATE	SAMPLE	LEAD mg/L	ZINC mg/L	CADMIUM mg/L
<b>Rinsate &amp; Trip Blank</b>					
Kellogg Tunnel Discharge	RB-01-05-15	<0.01	<0.004	<0.002	
Trip Blank (D.I.water)	TB-01-05-15	<0.01	<0.004	<0.002	

**CENTRAL TREATMENT PLANT****MISCELLANEOUS FLOWS**Month : **Jan-15**

Date	<b>KT Flow Meter Reading</b>
12/31/2014	0
1/31/2015	58,440,540
Total	58,440,540

Date	<b>006 Flow Meter Reading</b>
12/31/2014	0
1/31/2015	60,241,700
Total	60,241,700

<b>Sweeny Pump Station Reading</b>				
Date	#1 Pump	620 gpm	#2 Pump	500 gpm
12/31/2014	170.0	Hours	785.0	Hours
1/31/2015	170.0	Hours	785.0	Hours
Total Hours	0.0	Hours	0.0	Hours
Total Flow for 004/Sweeny For The Month =		0		Gallons

**PTM Discharge Flow**

Date	Flow (gpm)
01/08/15	15.0
01/22/15	15.0

Date	<b>Lined Storage Pond Water Level</b>			
12/31/2014	2,250,000	gal	Elev. =	2271.0
1/31/2015	1,250,000	gal	Elev. =	2269.5

## Bunker Hill Central Treatment Plant

Daily log January 2015

KELLOGG TUNNEL ANNUAL DISCHARGE FLOWS 2000-2009										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>Jan.</b>	61,000,000	61,677,510	54,606,100	53,066,890	52,223,080	53,150,000	56,050,900	56,281,000	53,465,820	50,936,960
<b>Feb.</b>	57,600,000	45,584,000	52,840,000	46,493,470	48,306,920	49,860,000	51,188,000	50,511,300	49,282,209	48,146,111
<b>March</b>	60,730,000	57,740,360	50,452,060	60,162,290	59,852,720	58,073,000	56,332,830	65,443,650	54,578,130	61,712,540
<b>April</b>	68,680,000	54,846,000	65,583,230	63,335,350	50,715,310	53,775,350	72,039,280	66,636,500	61,690,530	63,055,350
<b>May</b>	<b>97,719,900</b>	57,501,901	76,082,410	63,335,350	53,245,000	54,181,650	72,027,000	63,203,308	86,680,760	70,233,580
<b>June</b>	69,800,000	55,835,590	67,299,960	59,532,434	50,451,170	51,750,000	68,385,600	57,981,410	82,622,590	64,623,180
<b>July</b>	63,698,850	53,652,330	64,820,120	66,252,746	56,538,980	55,255,000	64,054,000	58,282,900	66,324,500	61,535,000
<b>Aug.</b>	66,707,120	45,289,000	58,212,940	62,074,750	52,002,140	49,970,000	64,621,000	55,335,900	65,168,620	56,446,670
<b>Sept.</b>	55,797,530	50,276,020	60,140,460	43,789,000	49,208,020	49,987,000	54,515,270	50,471,870	61,074,020	57,006,430
<b>Oct.</b>	60,424,720	50,660,840	54,485,871	52,869,290	59,601,690	52,807,000	57,610,030	50,086,330	58,666,300	55,830,000
<b>Nov.</b>	53,408,660	50,660,840	51,072,259	47,600,000	51,948,000	50,722,600	55,191,700	50,779,040	52,041,780	54,956,800
<b>Dec.</b>	56,414,870	53,464,780	56,034,000	56,413,080	56,770,000	54,904,400	60,486,900	53,716,210	55,727,260	54,542,700
<b>Totals</b>	771,981,650	637,189,171	711,629,410	674,924,650	640,863,030	634,436,000	732,502,510	678,729,418	747,322,519	699,025,321

KELLOGG TUNNEL ANNUAL DISCHARGE FLOWS 2010-2019										
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
<b>Jan.</b>	55,503,180	61,797,170	58,434,610	<b>61,855,400</b>	57,478,450	58,440,540				
<b>Feb.</b>	50,819,910	54,556,227	57,763,170	<b>59,383,290</b>	54,607,950					
<b>March</b>	54,691,420	61,373,630	<b>67,236,650</b>	66,264,780	65,396,350					
<b>April</b>	56,255,340	65,687,340	<b>81,233,630</b>	69,619,100	65,618,770					
<b>May</b>	58,825,640	84,365,390	<b>86,826,340</b>	71,496,380	80,598,590					
<b>June</b>	56,770,200	79,985,540	<b>83,440,990</b>	64,663,900	65,623,330					
<b>July</b>	56,727,510	<b>79,346,330</b>	74,315,690	62,844,790	63,425,030					
<b>Aug.</b>	56,239,370	<b>70,377,570</b>	68,986,900	58,459,380	61,486,270					
<b>Sept.</b>	54,109,980	60,404,280	<b>62,270,300</b>	58,097,500	56,279,590					
<b>Oct.</b>	55,480,200	<b>62,403,480</b>	59,991,850	58,325,780	60,659,850					
<b>Nov.</b>	54,856,880	<b>58,430,700</b>	57,184,220	56,215,000	55,065,100					
<b>Dec.</b>	54,607,330	58,617,700	<b>61,750,390</b>	56,932,530	59,770,540					
<b>Totals</b>	664,886,960	797,345,357	<b>819,434,740</b>	<b>744,157,830</b>	<b>746,009,820</b>	<b>58,440,540</b>	0	0	0	0

Yellow indicates record monthly flow as well as record annual flow

## KELLOGG TUNNEL ZINC DATA

Month	Concentration (mg/L)											
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Jan.		86	81	79	63	70	61	72	57	68	41	46
Feb.		86	91	96	55	72	57	95	58	68	41	
March		94	116	86	65	68	53	86	58	69	58	
April		98	121	140	85	80	50	137	176	86	107	
May		105	231	179	318	136	57	377	215	150	178	
June		107	182	118	271	143	68	347	164	106	131	
July		90	144	111	198	117	75	181	136	87	87	
Aug.		87	112	92	132	94	79	130	110	86	76	
Sept.		84	107	80	107	76	81	132	107	75	66	
Oct.		59	81	100	88	99	75	70	86	70	67	63
Nov.		66	79	88	88	104	63	57	95	71	70	55
Dec.		67	62	78	65	76	59	61	88	69	54	49
average		64	88	121	102	131	88	64	152	108	82	79
												46
lime usage (tons/day)		2.59	3.23	2.76	4.78	3.24	2.16	4.31	3.93	2.46	2.70	
Zinc Conc. Increase/Decrease		37%	-16%	29%	-33%	-27%	138%	-29%	-24%	-3%	-42%	
Lime Usage Increase/Decrease		25%	-15%	73%	-32%	-33%	100%	-9%	-37%	10%	-100%	

Bunker Hill Superfund Site						
Kellogg, Idaho						
Central Treatment Plant Review						
Month: Jan-15						
SAMPLE	DATE	PARAMETER	VALUE	QC/dup	UNITS	PRECISION
LOCATION			RESULTS			% RPD
Performance	01/01/15	Cadmium	0.050	0.050	mg/L	-0.4%
Evaluation		Lead	0.320	0.300	mg/L	6.5%
Sample		Zinc	0.719	0.730	mg/L	-1.5%
(CTPXX-01-01-15)						
(CTPXX-01-01-15)	01/01/15	Cadmium	0.050	0.050	mg/L	-0.4%
		Lead	0.320	0.319	mg/L	0.3%
Lab Duplicate		Manganese	0.002	0.002	mg/L	0.0%
		Zinc	0.719	0.722	mg/L	-0.4%
		pH			s.u.	
		TSS			mg/L	
006/CTP Outfall	01/02/15	Cadmium	0.011	0.011	mg/L	0.0%
		Lead	0.004	0.004	mg/L	0.0%
Lab Duplicate		Manganese	37.2	37.6	mg/L	-1.1%
		Zinc	0.616	0.611	mg/L	0.8%
		pH	7.04	6.99	s.u.	0.7%
		TSS	1.6	1.6	mg/L	0.0%
006/CTP Outfall	01/05/15	Cadmium	0.007	0.007	mg/L	-4.4%
		Lead	0.004	0.004	mg/L	0.0%
Lab Duplicate		Manganese	31.7	31.9	mg/L	-0.6%
		Zinc	0.407	0.416	mg/L	-2.2%
		pH	7.04	6.96	s.u.	1.1%
		TSS	1.4	1.4	mg/L	0.0%
Kellogg Tunnel	01/05/15	Cadmium	0.090	0.089	mg/L	1.6%
		Lead	0.524	0.518	mg/L	1.2%
QC Sample		Manganese	68.3	67.0	mg/L	1.9%
		Zinc	44.5	44.0	mg/L	1.1%
		pH	3.16	3.15	s.u.	0.3%
		TSS	70.0	72.0	mg/L	-2.8%
RB-01-05-15	01/05/15	Cadmium	0.001	0.001	mg/L	0.0%
		Lead	0.004	0.004	mg/L	0.0%
Lab Duplicate		Manganese	0.002	0.002	mg/L	0.0%
		Zinc	0.004	0.003	mg/L	9.0%
006/CTP Outfall	01/07/15	Cadmium	0.006	0.006	mg/L	-3.3%
		Lead	0.005	0.004	mg/L	12.8%
Lab Duplicate		Manganese	27.2	26.8	mg/L	1.5%
		Zinc	0.353	0.350	mg/L	0.9%
		pH	7.05	7.02	s.u.	0.4%
		TSS	1.4	1.4	mg/L	0.0%
Performance	01/08/15	Cadmium	0.051	0.050	mg/L	1.4%
Evaluation		Lead	0.326	0.300	mg/L	8.3%
Sample		Zinc	0.765	0.730	mg/L	4.7%
(CTPXX-01-08-15)						
(CTPXX-01-08-15)	01/08/15	Cadmium	0.051	0.050	mg/L	1.4%
		Lead	0.326	0.323	mg/L	0.9%
Lab Duplicate		Manganese	0.00	0.00	mg/L	0.0%

SAMPLE	DATE	PARAMETER	VALUE	QC/dup	UNITS	PRECISION	MATRIX SPIKE DATA
LOCATION			RESULTS			% RPD	% RECOVERY
		Zinc	0.765	0.755	mg/L	1.3%	88%
		pH	7.21	7.17	s.u.	0.6%	
		TSS	0.8	0.8	mg/L		
006/CTP Outfall	01/12/15	Cadmium	0.004	0.004	mg/L	9.5%	
		Lead	0.004	0.004	mg/L	0.0%	
QC Sample		Manganese	28.6	28.3	mg/L	1.1%	
		Zinc	0.180	0.180	mg/L	0.0%	
		pH	7.10	7.10	s.u.	0.0%	
		TSS	1.0	1.0	mg/L	0.0%	
006/CTP Outfall	01/12/15	Cadmium	0.004	0.004	mg/L	7.1%	98%
		Lead	0.004	0.004	mg/L	0.0%	92%
Lab Duplicate		Manganese	28.6	29.0	mg/L	-1.4%	115%
		Zinc	0.180	0.182	mg/L	-1.1%	91%
		pH	7.10	7.09	s.u.	0.1%	
		TSS	1.0	1.0	mg/L	0.0%	
Kellogg Tunnel	01/12/15	Cadmium	0.070	0.071	mg/L	-1.3%	100%
		Lead	0.507	0.511	mg/L	-0.8%	93%
Lab Duplicate		Manganese	74.9	74.8	mg/L	0.1%	
		Zinc	40.4	40.4	mg/L	0.0%	
		pH			s.u.		
		TSS			mg/L		
006/CTP Outfall	01/14/15	Cadmium	0.004	0.004	mg/L	-17.3%	101%
		Lead	0.004	0.004	mg/L	0.0%	93%
Lab Duplicate		Manganese	26.4	26.1	mg/L	1.1%	
		Zinc	0.205	0.204	mg/L	0.5%	92%
		pH	7.05	7.02	s.u.	0.4%	
		TSS	0.6	0.6	mg/L	0.0%	
Performance Evaluation Sample (CTPXX-01-15-15)	01/15/15	Cadmium	0.050	0.050	mg/L	0.8%	
		Lead	0.315	0.300	mg/L	4.9%	
		Zinc	0.782	0.730	mg/L	6.9%	
(CTPXX-01-15-15)	01/15/15	Cadmium	0.050	0.051	mg/L	-1.4%	95%
		Lead	0.315	0.317	mg/L	-0.6%	94%
Lab Duplicate		Manganese	0.002	0.002	mg/L	0.0%	97%
		Zinc	0.782	0.791	mg/L	-1.1%	93%
		pH			s.u.		
		TSS			mg/L		
006/CTP Outfall	01/16/15	Cadmium	0.007	0.007	mg/L	-4.5%	102%
		Lead	0.004	0.004	mg/L	0.0%	96%
Lab Duplicate		Manganese	22.2	22.6	mg/L	-1.8%	87%
		Zinc	0.299	0.301	mg/L	-0.7%	93%
		pH	7.12	7.15	s.u.	-0.4%	
		TSS	1.2	1.2	mg/L	0.0%	
006/CTP Outfall	01/19/15	Cadmium	0.007	0.007	mg/L	-1.5%	101%
		Lead	0.004	0.004	mg/L	0.0%	94%
Lab Duplicate		Manganese	22.6	22.6	mg/L	0.0%	
		Zinc	0.303	0.300	mg/L	1.0%	92%
		pH	7.28	7.22	s.u.	0.8%	
		TSS	1.4	1.4	mg/L	0.0%	
Kellogg Tunnel	01/19/15	Cadmium	0.094	0.095	mg/L	-0.6%	102%

SAMPLE	DATE	PARAMETER	VALUE	QC/dup	UNITS	PRECISION	MATRIX SPIKE DATA
LOCATION			RESULTS			% RPD	% RECOVERY
Lab Duplicate		Lead	0.531	0.539	mg/L	-1.5%	98%
		Manganese	60.8	61.2	mg/L	-0.7%	
		Zinc	53.0	54.0	mg/L	-1.9%	
		pH			s.u.		
		TSS			mg/L		
006/CTP Outfall	01/21/15	Cadmium	0.006	0.006	mg/L	1.7%	102%
		Lead	0.004	0.004	mg/L	0.0%	95%
		Manganese	16.9	17.0	mg/L	-0.6%	97%
		Zinc	0.193	0.194	mg/L	-0.5%	93%
		pH	6.96	6.97	s.u.	-0.1%	
(CTPXX-01-22-15)	01/22/15	TSS	1.0	1.0	mg/L	0.0%	
		Cadmium	0.051	0.050	mg/L	2.2%	
		Lead	0.311	0.300	mg/L	3.6%	
		Zinc	0.748	0.730	mg/L	2.4%	
(CTPXX-01-22-15)	01/22/15	Cadmium	0.051	0.051	mg/L	0.4%	95%
		Lead	0.311	0.307	mg/L	1.3%	92%
		Manganese	0.002	0.002	mg/L	0.0%	97%
		Zinc	0.75	0.75	mg/L	0.0%	89%
		pH			s.u.		
PTM Discharge	01/22/15	TSS			mg/L		
		Cadmium	1.07	1.07	mg/L	0.0%	
		Lead	0.042	0.046	mg/L	-10.0%	
		Manganese			mg/L		
		Zinc	10.1	10.2	mg/L	-1.0%	
QC Sample		pH	7.39	7.39	s.u.	0.0%	
		TSS	0.8	0.8	mg/L	0.0%	
006/CTP Outfall	01/23/15	Cadmium	0.005	0.005	mg/L	-10.1%	95%
		Lead	0.004	0.004	mg/L	0.0%	97%
		Manganese	15.2	15.5	mg/L	-2.0%	107%
		Zinc	0.188	0.198	mg/L	-5.2%	100%
		pH	6.94	6.91	s.u.	0.4%	
006/CTP Outfall	01/26/15	TSS	1.6	1.6	mg/L	0.0%	
		Cadmium	0.005	0.005	mg/L	-2.1%	101%
		Lead	0.004	0.004	mg/L	0.0%	93%
		Manganese	32.3	31.8	mg/L	1.6%	
		Zinc	0.243	0.240	mg/L	1.2%	89%
Kellogg Tunnel	01/26/15	pH	7.00	6.96	s.u.	0.6%	
		TSS	1.2	1.2	mg/L	0.0%	
		Cadmium	0.073	0.075	mg/L	-1.9%	101%
		Lead	0.508	0.514	mg/L	-1.2%	94%
		Manganese	73.5	73.9	mg/L	-0.5%	
Lab Duplicate		Zinc	38.7	39.4	mg/L	-1.8%	110%
		pH			s.u.		
		TSS			mg/L		
006/CTP Outfall	01/28/15						
		Cadmium	0.005	0.005	mg/L	-2.1%	104%
		Lead	0.004	0.004	mg/L	0.0%	99%
		Manganese	30.9	31.3	mg/L	-1.3%	114%
		Zinc	0.266	0.261	mg/L	1.9%	100%
		pH	7.00	6.98	s.u.	0.3%	



		Bunker Hill Superfund Site					
		Kellogg, Idaho					
		Central Treatment Plant Review					
		Month: Jan-15					
CONCENTRATION (mg/L)							
SAMPLE	DATE	PARAMETER	SPIKE	DUPLICATE	SPIKE	PRECISION	
LOCATION			ADDED	RESULT	RESULT	% RPD	COMMENTS
PE Sample	01/01/15	Cadmium	1.00	0.978	0.966	1.2%	
MS/MSD		Lead	1.00	1.25	1.23	1.6%	
CTPXX-01-01-15		Manganese	1.00	0.978	0.969	1.0%	Sample conc. >> spike level
		Zinc	1.00	1.57	1.56	1.2%	
006/CTP Outfall	01/02/15	Cadmium	1.00	1.03	1.02	1.3%	
MS/MSD		Lead	1.00	0.954	0.948	0.7%	
		Manganese	1.00	38.7	38.3	1.1%	Sample conc. >> spike level
		Zinc	1.00	1.55	1.53	1.0%	
006/CTP Outfall	01/05/15	Cadmium	1.00	0.985	1.00	1.5%	
MS/MSD		Lead	1.00	0.923	0.941	2.0%	
		Manganese	1.00	32.3	32.4	0.3%	Sample conc. >> spike level
		Zinc	1.00	1.25	1.26	1.2%	
RB-12-11-14	01/05/15	Cadmium	1.00	0.940	0.947	0.7%	
MS/MSD		Lead	1.00	0.943	0.954	1.1%	
		Manganese	1.00	0.987	0.986	0.1%	Sample conc. >> spike level
		Zinc	1.00	0.871	0.880	1.0%	
006/CTP Outfall	01/07/15	Cadmium	1.00	0.990	0.982	0.7%	
MS/MSD		Lead	1.00	0.923	0.912	1.2%	
		Manganese	1.00	27.8	27.8	0.2%	Sample conc. >> spike level
		Zinc	1.00	1.24	1.23	0.9%	
PE Sample	01/08/15	Cadmium	1.00	0.976	0.977	0.1%	
MS/MSD		Lead	1.00	1.24	1.24	0.5%	
CTPXX-01-08-15		Manganese	1.00	0.958	0.950	0.0%	Sample conc. >> spike level
		Zinc	1.00	1.64	1.64	0.1%	
006/CTP Outfall	01/09/15	Cadmium	1.00	0.995	1.00	1.0%	
MS/MSD		Lead	1.00	0.919	0.928	1.0%	
		Manganese	1.00	27.3	27.8	1.7%	Sample conc. >> spike level
		Zinc	1.00	1.10	1.11	1.2%	
006/CTP Outfall	01/12/15	Cadmium	1.00	0.989	0.988	0.1%	
MS/MSD		Lead	1.00	0.922	0.922	0.0%	
		Manganese	1.00	29.4	29.7	1.0%	Sample conc. >> spike level
		Zinc	1.00	1.09	1.09	0.1%	
Kellogg Tunnel	01/12/15	Cadmium	1.00	1.07	1.07	0.7%	
MS/MSD		Lead	1.00	1.43	1.44	0.4%	
		Manganese	1.00	75.3	75.0	0.4%	Sample conc. >> spike level
		Zinc	1.00	40.3	40.2	0.2%	
006/CTP Outfall	01/14/15	Cadmium	1.00	1.02	1.01	0.7%	
MS/MSD		Lead	1.00	0.941	0.928	1.5%	
		Manganese	1.00	27.3	26.9	1.6%	Sample conc. >> spike level
		Zinc	1.00	1.13	1.12	0.6%	
PE Sample	01/15/15	Cadmium	1.00	1.00	1.00	0.2%	
MS/MSD		Lead	1.00	1.25	1.26	0.5%	
CTPXX-01-15-15		Manganese	1.00	0.977	0.965	1.2%	Sample conc. >> spike level
		Zinc	1.00	1.71	1.71	0.2%	
006/CTP Outfall	01/16/15	Cadmium	1.00	1.03	1.02	0.3%	
MS/MSD		Lead	1.00	0.961	0.956	0.5%	

		Manganese	1.00	23.5	23.1	1.6%	Sample conc. >> spike level	
		Zinc	1.00	1.24	1.23	0.6%		
006/CTP Outfall	01/19/15	Cadmium	1.00	1.03	1.02	0.9%		
<b>MS/MSD</b>		Lead	1.00	0.948	0.943	0.5%		
		Manganese	1.00	23.7	23.3	1.7%	Sample conc. >> spike level	
		Zinc	1.00	1.23	1.22	0.1%		
Kellogg Tunnel	01/19/15	Cadmium	1.00	1.11	1.12	0.6%		
<b>MS/MSD</b>		Lead	1.00	1.49	1.51	1.4%		
		Manganese	1.00	59.8	63.4	5.8%	Sample conc. >> spike level	
		Zinc	1.00	54.7	55.8	1.9%		
006/CTP Outfall	01/21/15	Cadmium	1.00	1.02	1.03	0.8%		
<b>MS/MSD</b>		Lead	1.00	0.956	0.954	0.3%		
		Manganese	1.00	17.5	17.8	1.9%	Sample conc. >> spike level	
		Zinc	1.00	1.12	1.12	0.3%		
PE Sample	01/22/15	Cadmium	1.00	1.01	1.00	0.5%		
<b>MS/MSD</b>		Lead	1.00	1.24	1.23	0.4%		
CTPXX-01-22-15		Manganese	1.00	0.997	0.987	1.0%	Sample conc. >> spike level	
		Zinc	1.00	1.63	1.63	0.0%		
006/CTP Outfall	01/23/15	Cadmium	1.00	0.955	0.956	0.8%		
<b>MS/MSD</b>		Lead	1.00	0.945	0.970	0.3%		
		Manganese	1.00	16.3	16.3	1.9%	Sample conc. >> spike level	
		Zinc	1.00	1.15	1.18	0.3%		
006/CTP Outfall	01/26/15	Cadmium	1.00	1.01	1.02	0.3%		
<b>MS/MSD</b>		Lead	1.00	0.924	0.929	0.5%		
		Manganese	1.00	32.5	32.5	0.1%	Sample conc. >> spike level	
		Zinc	1.00	1.11	1.13	1.4%		
Kellogg Tunnel	01/26/15	Cadmium	1.00	1.09	1.09	0.0%		
<b>MS/MSD</b>		Lead	1.00	1.45	1.45	0.1%		
		Manganese	1.00	74.7	74.7	0.1%	Sample conc. >> spike level	
		Zinc	1.00	39.9	39.8	0.3%		
006/CTP Outfall	01/28/15	Cadmium	1.00	1.03	1.04	1.9%		
<b>MS/MSD</b>		Lead	1.00	0.973	0.989	1.6%		
		Manganese	1.00	31.3	32.0	2.4%	Sample conc. >> spike level	
		Zinc	1.00	1.25	1.27	1.2%		
006/CTP Outfall	01/30/15	Cadmium	1.00	0.982	0.985	0.4%		
<b>MS/MSD</b>		Lead	1.00	0.915	0.920	0.5%		
		Manganese	1.00	27.2	27.7	2.0%	Sample conc. >> spike level	
		Zinc	1.00	1.20	1.20	0.4%		

## CTP Mine Water Line Open Channel Inspection Form

**Note:** This form should be utilized weekly during the regular channel cleanout.  
Results will be include with the Daily Quality Control Report and monthly DMR.

Date: January 1, 2015

Inspected By:

Gary Coast, Steve Brunner

Item Inspected	Condition	Comments	
Channel Sections and Joints	<b>Good</b> / Poor	Check for cracks	Ok
Channel Inlet Connection @ KT	<b>Good</b> / Poor	Check for cracks	Ok
Channel Outlet/Pipeline Inlet	<b>Good</b> / Poor	Check for cracks	Ok
Channel Bottom (during low flows)	<b>Good</b> / Poor		Ok
Bottom Joints (during low flows)	<b>Good</b> / Poor		Ok
Trash Rack Assembly Rail Units	<b>Good</b> / Poor	Check for corrosion and bolt tightness	Ok
Trash Racks	<b>Good</b> / Poor	Removed debris from trash racks	
Parshall Flume	<b>Good</b> / Poor	Check fiberglass and joint connections	Ok

General Comments:

Bunker mine has one pump running at this time.

The Kellogg Tunnel flow at this time is 1.84 mgd (1287 gpm), pH at this time is 3.01

All flume components are in good shape at this time with the exception of the flume staff gauge.

Alternate hand held staff gauges will be utilized to verify flume staff gauge and flow meter readings.

Ultrasonic flow meter calibration was correct.

## CTP Mine Water Line Open Channel Inspection Form

**Note:** This form should be utilized weekly during the regular channel cleanout.  
Results will be include with the Daily Quality Control Report and monthly DMR.

Date: January 8, 2015

Inspected By:

Gary Coast, Steve Brunner

Item Inspected	Condition	Comments	
Channel Sections and Joints	<b>Good</b> / Poor	Check for cracks	Ok
Channel Inlet Connection @ KT	<b>Good</b> / Poor	Check for cracks	Ok
Channel Outlet/Pipeline Inlet	<b>Good</b> / Poor	Check for cracks	Ok
Channel Bottom (during low flows)	<b>Good</b> / Poor		Ok
Bottom Joints (during low flows)	<b>Good</b> / Poor		Ok
Trash Rack Assembly Rail Units	<b>Good</b> / Poor	Check for corrosion and bolt tightness	Ok
Trash Racks	<b>Good</b> / Poor	Removed debris from trash racks	
Parshall Flume	<b>Good</b> / Poor	Check fiberglass and joint connections	Ok

General Comments:

Bunker mine has two pumps running at this time.

The Kellogg Tunnel flow at this time is 2.27 mgd (1576 gpm), pH at this time is 3.45

All flume components are in good shape at this time with the exception of the flume staff gauge.

Alternate hand held staff gauges will be utilized to verify flume staff gauge and flow meter readings.

Ultrasonic flow meter calibration was correct.

## CTP Mine Water Line Open Channel Inspection Form

**Note:** This form should be utilized weekly during the regular channel cleanout.  
Results will be include with the Daily Quality Control Report and monthly DMR.

Date: January 15, 2015      Inspected By:      Gary Coast, Steve Brunner

Item Inspected	Condition	Comments	
Channel Sections and Joints	<b>Good</b> / Poor	Check for cracks	Ok
Channel Inlet Connection @ KT	<b>Good</b> / Poor	Check for cracks	Ok
Channel Outlet/Pipeline Inlet	<b>Good</b> / Poor	Check for cracks	Ok
Channel Bottom (during low flows)	<b>Good</b> / Poor		Ok
Bottom Joints (during low flows)	<b>Good</b> / Poor		Ok
Trash Rack Assembly Rail Units	<b>Good</b> / Poor	Check for corrosion and bolt tightness	Ok
Trash Racks	<b>Good</b> / Poor	Removed debris from trash racks	
Parshall Flume	<b>Good</b> / Poor	Check fiberglass and joint connections	Ok

General Comments:

Bunker mine has one pump running at this time.

The Kellogg Tunnel flow at this time is 1.63 mgd (1132 gpm), pH at this time is 3.08

All flume components are in good shape at this time with the exception of the flume staff gauge.

Alternate hand held staff gauges will be utilized to verify flume staff gauge and flow meter readings.

Ultrasonic flow meter calibration was correct.

## CTP Mine Water Line Open Channel Inspection Form

**Note:** This form should be utilized weekly during the regular channel cleanout.  
Results will be include with the Daily Quality Control Report and monthly DMR.

Date: January 22, 2015      Inspected By:      Gary Coast, Steve Brunner

Item Inspected	Condition	Comments	
Channel Sections and Joints	Good / Poor	Check for cracks	Ok
Channel Inlet Connection @ KT	Good / Poor	Check for cracks	Ok
Channel Outlet/Pipeline Inlet	Good / Poor	Check for cracks	Ok
Channel Bottom (during low flows)	Good / Poor		Ok
Bottom Joints (during low flows)	Good / Poor		Ok
Trash Rack Assembly Rail Units	Good / Poor	Check for corrosion and bolt tightness	Ok
Trash Racks	Good / Poor	Removed debris from trash racks	
Parshall Flume	Good / Poor	Check fiberglass and joint connections	Ok

General Comments:

Bunker mine has two pumps running at this time.

The Kellogg Tunnel flow at this time is 2.24 mgd (1556 gpm), pH at this time is 3.29

All flume components are in good shape at this time with the exception of the flume staff gauge.

Alternate hand held staff gauges will be utilized to verify flume staff gauge and flow meter readings.

Ultrasonic flow meter calibration was correct.

## CTP Mine Water Line Open Channel Inspection Form

**Note:** This form should be utilized weekly during the regular channel cleanout.  
Results will be include with the Daily Quality Control Report and monthly DMR.

Date: January 29, 2015      Inspected By:      Gary Coast, Gary Fulton

Item Inspected	Condition	Comments	
Channel Sections and Joints	<b>Good</b> / Poor	Check for cracks	Ok
Channel Inlet Connection @ KT	<b>Good</b> / Poor	Check for cracks	Ok
Channel Outlet/Pipeline Inlet	<b>Good</b> / Poor	Check for cracks	Ok
Channel Bottom (during low flows)	<b>Good</b> / Poor		Ok
Bottom Joints (during low flows)	<b>Good</b> / Poor		Ok
Trash Rack Assembly Rail Units	<b>Good</b> / Poor	Check for corrosion and bolt tightness	Ok
Trash Racks	<b>Good</b> / Poor	Removed debris from trash racks	
Parshall Flume	<b>Good</b> / Poor	Check fiberglass and joint connections	Ok

General Comments:

Bunker mine has one pump running at this time.

The Kellogg Tunnel flow at this time is 1.20 mgd (833 gpm), pH at this time is 2.97

All flume components are in good shape at this time with the exception of the flume staff gauge.

Alternate hand held staff gauges will be utilized to verify flume staff gauge and flow meter readings.

Ultrasonic flow meter calibration was correct.



One Government Gulch - PO Box 929      Kellogg ID 83837-0929      (208) 784-1258      Fax (208) 783-0

Ferguson Contracting  
901 N. Division  
Pinehurst, ID 83850

Project: BHCTP

Sampled: 02-Jan-15

Received: 02-Jan-15

Reported: 05-Jan-15 15:31

LAB #	W5A001-01	-	-	-	-	-	-
SAMPLE ID	006-01-02-15	-	-	-	-	-	-
Reporting Limit	01/02/2015 06:00	-	-	-	-	-	-
<b>Metals (Total) (Water)</b>							
Cadmium	0.0100 mg/L	0.0107	-	-	-	-	-
Lead	0.0500 mg/L	<0.0008 [3]	-	-	-	-	-
Manganese	0.0200 mg/L	37.2 [2]	-	-	-	-	-
Zinc	0.0200 mg/L	0.626	-	-	-	-	-
<b>Classical Chemistry Parameters (Water)</b>							
pH	pH Units	7.04 [1]	-	-	-	-	-
Total Susp. Solids	5.0 mg/L	1.6	-	-	-	-	-

John Kern  
Laboratory Director

1891

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Ferguson Contracting  
901 N. Division  
Pinehurst, ID 83850

Project: BHCTP

Sampled: 05-Jan-15

Received: 05-Jan-15

Reported: 06-Jan-15 15:12

LAB #	W5AD013-01	-	-	-	-	-	-
SAMPLE ID	006-01-05-15	-	-	-	-	-	-
Reporting Limit	01/05/2015 06:00	-	-	-	-	-	-
<b>Metals (Total) (Water)</b>							
Cadmium	0.0100 mg/L	0.0067 [2]	-	-	-	-	-
Lead	0.0500 mg/L	<0.0035 [4]	-	-	-	-	-
Manganese	0.0200 mg/L	31.7 [3]	-	-	-	-	-
Zinc	0.0200 mg/L	0.407	-	-	-	-	-
<b>Classical Chemistry Parameters (Water)</b>							
pH	pH Units	7.04 [1]	-	-	-	-	-
Total Susp. Solids	5.0 mg/L	1.4	-	-	-	-	-

John Kern  
Laboratory Director

1891

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of 3



One Government Gulch - PO Box 929 Kellogg ID 83837-0929

(208) 784-1258

Fax (208) 783-0891

Ferguson Contracting  
901 N. Division  
Pinehurst, ID 83850

Project: BHCTP

Sampled: 07-Jan-15

Received: 07-Jan-15

Reported: 08-Jan-15 13:01

LAB #	WSA0043-01	-	-	-	-	-	-
SAMPLE ID	006-01-07-15	-	-	-	-	-	-
	01/07/2015 06:00	-	-	-	-	-	-
<b>Metals (Total) (Water)</b>							
Cadmium	0.0100 mg/L	0.0060 [2]	-	-	-	-	-
Lead	0.0500 mg/L	0.0250 [2]	-	-	-	-	-
Manganese	0.0200 mg/L	27.2 [3]	-	-	-	-	-
Zinc	0.0200 mg/L	0.353	-	-	-	-	-
<b>Classical Chemistry Parameters (Water)</b>							
pH	pH Units	7.05 [1]	-	-	-	-	-
Total Susp. Solids	mg/L	5.0	1.4	-	-	-	-

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Ferguson Contracting 901 N. Division Pinehurst, ID 83850	Project: BHCTP	Sampled: 08-Jan-15
		Received: 09-Jan-15
		Reported: 12-Jan-15 14:10

LAB #	W5A001-01	W5A001-02	W5A001-03	-	-	-
SAMPLE ID	KT-01-08-15	CTPX04-01-08-15	PTM-01-08-15	-	-	-
Reporting Limit	01/08/2015 07:30	01/08/2015 07:00	01/08/2015 06:00	-	-	-
<b>Metals (Total) (Water)</b>						
Cadmium	0.0100 mg/L	0.0577	0.0507	0.977	-	-
Lead	0.0500 mg/L	0.467	0.326	0.0240 [2]	-	-
Manganese	0.0200 mg/L	74.3	-	-	-	-
Zinc	0.0200 mg/L	38.4	0.765	9.60	-	-
<b>Classical Chemistry Parameters (Water)</b>						
pH	pH Units	3.47 [1]	-	7.34 [1]	-	-
Total Susp. Solids	5.0 mg/L	63.0	-	0.6 [2]	-	-

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Ferguson Contracting  
901 N. Division  
Pinehurst, ID 83850

Project: BHCTP

Sampled: 09-Jan-15

Received: 09-Jan-15

Reported: 12-Jan-15 14:09

LAB #	WSA0100-01	-	-	-	-	-	-
SAMPLE ID	006-01-09-15	-	-	-	-	-	-
Reporting Limit	01/09/2015 06:00	-	-	-	-	-	-
<b>Metals (Total) (Water)</b>							
Cadmium	0.0100 mg/L	0.0050 [2]	-	-	-	-	-
Lead	0.0500 mg/L	<0.0035 [4]	-	-	-	-	-
Manganese	0.0200 mg/L	27.0 [3]	-	-	-	-	-
Zinc	0.0200 mg/L	0.232	-	-	-	-	-
<b>Classical Chemistry Parameters (Water)</b>							
pH	pH Units	7.21 [1]	-	-	-	-	-
Total Susp. Solids	5.0 mg/L	0.6 [2]	-	-	-	-	-

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Ferguson Contracting 901 N. Division Pinehurst, ID 83850	Project: BHCTP	Sampled: 12-Jan-15
		Received: 12-Jan-15
		Reported: 13-Jan-15 14:39

LAB #	WSAO113-01	WSAO113-02	-	-	-	-
SAMPLE ID	006-01-12-15	0C-01-12-15	-	-	-	-
	01/12/2015 06:00	01/12/2015 06:00	-	-	-	-
<b>Reporting Limit</b>						
<b>Metals (Total) (Water)</b>						
Cadmium	0.0100 mg/L	0.0044 [2]	0.0040 [2]	-	-	-
Lead	0.0500 mg/L	<0.0038 [4]	<0.0038 [4]	-	-	-
Manganese	0.0200 mg/L	28.6 [3]	28.3	-	-	-
Zinc	0.0200 mg/L	0.180	0.181	-	-	-
<b>Classical Chemistry Parameters (Water)</b>						
pH	pH Units	7.10 [1]	7.10 [1]	-	-	-
Total Susp. Solids	5.0 mg/L	1.0	1.0	-	-	-

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Ferguson Contracting  
901 N. Division  
Pinehurst, ID 83650

Project: BHCTP

Sampled: 12-Jan-15

Received: 12-Jan-15

Reported: 14-Jan-15 14:10

LAB #	W5A0114-01	-	-	-	-	-
SAMPLE ID	KT-01-12-15	-	-	-	-	-
Reporting Unit	01/12/2015 07:30	-	-	-	-	-
<b>Metals (Total) (Water)</b>						
Cadmium	0.0100 mg/L	0.0702	-	-	-	-
Lead	0.0500 mg/L	0.507	-	-	-	-
Manganese	0.0200 mg/L	74.9 [2]	-	-	-	-
Zinc	0.0200 mg/L	40.4 [2]	-	-	-	-
<b>Classical Chemistry Parameters (Water)</b>						
pH	pH Units	3.43 [1]	-	-	-	-
Total Susp. Solids	mg/L	62.0	-	-	-	-

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Ferguson Contracting 901 N. Division Pinehurst, ID 83850	Project: BHCTP	Sampled: 14-Jan-15
		Received: 14-Jan-15
		Reported: 15-Jan-15 12:59

LAB #	W5A0160-01	-	-	-	-	-	-
SAMPLE ID	006-01-14-15	-	-	-	-	-	-
Reporting Limit	01/14/2015 06:00	-	-	-	-	-	-
<b>Metals (Total) (Water)</b>							
Cadmium	0.0100 mg/L	0.0037 [2]	-	-	-	-	-
Lead	0.0500 mg/L	<0.0038 [4]	-	-	-	-	-
Manganese	0.0200 mg/L	28.4 [3]	-	-	-	-	-
Zinc	0.0200 mg/L	0.205	-	-	-	-	-
<b>Classical Chemistry Parameters (Water)</b>							
pH	pH Units	7.05 [1]	-	-	-	-	-
Total Susp. Solids	5.0 mg/L	0.6 [2]	-	-	-	-	-

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Ferguson Contracting 901 N. Division Pinehurst, ID 83850	Project: BHCTP	Sampled: 15-Jan-15
		Received: 16-Jan-15
		Reported: 20-Jan-15 14:47

LAB #	W5A0217-01	W5A0217-02	-	-	-	-	-
SAMPLE ID	KT-01-15-15	CTPX6-01-15-15	-	-	-	-	-
Reporting Limit	01/15/2015 07:30	01/15/2015 07:00	-	-	-	-	-
<b>Metals (Total) (Water)</b>							
Cadmium	0.0100 mg/L	0.0926	0.0604	-	-	-	-
Lead	0.0500 mg/L	0.535	0.315	-	-	-	-
Manganese	0.0200 mg/L	62.7	-	-	-	-	-
Zinc	0.0200 mg/L	55.8 [1]	0.782	-	-	-	-
<b>Classical Chemistry Parameters (Water)</b>							
pH	pH Units	3.11 [2]	-	-	-	-	-
Total Susp. Solids	5.0 mg/L	73.0	-	-	-	-	-

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Ferguson Contracting 901 N. Division Pinehurst, ID 83850	Project: BHCTP	Sampled: 16-Jan-15
		Received: 16-Jan-15
		Reported: 19-Jan-15 14:49

LAB #	W5A0216-01	-	-	-	-	-	-
SAMPLE ID	006-01-16-15	-	-	-	-	-	-
Reporting Limit	01/16/2015 06:00	-	-	-	-	-	-
<b>Metals (Total) (Water)</b>							
Cadmium	0.0100 mg/L	0.0065 [2]	-	-	-	-	-
Lead	0.0500 mg/L	<0.0035 [4]	-	-	-	-	-
Manganese	0.0200 mg/L	22.2 [3]	-	-	-	-	-
Zinc	0.0200 mg/L	0.299	-	-	-	-	-
<b>Classical Chemistry Parameters (Water)</b>							
pH	pH Units	7.12 [1]	-	-	-	-	-
Total Susp. Solids	5.0 mg/L	1.2	-	-	-	-	-

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Ferguson Contracting  
901 N. Division  
Pinehurst, ID 83850

Project: BHCTP

Sampled: 19-Jan-15

Received: 19-Jan-15

Reported: 20-Jan-15 14:41

LAB #	W5A0246-01	-	-	-	-	-	-
SAMPLE ID	006-01-19-15	-	-	-	-	-	-
Reporting Limit	01/19/2015 06:00	-	-	-	-	-	-
<b>Metals (Total) (Water)</b>							
Cadmium	0.0100 mg/L	0.0066 [2]	-	-	-	-	-
Lead	0.0500 mg/L	<0.0038 [4]	-	-	-	-	-
Manganese	0.0200 mg/L	22.6 [3]	-	-	-	-	-
Zinc	0.0200 mg/L	0.303	-	-	-	-	-
<b>Classical Chemistry Parameters (Water)</b>							
pH	pH Units	7.28 [1]	-	-	-	-	-
Total Susp. Solids	5.0 mg/L	1.4	-	-	-	-	-

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Ferguson Contracting 901 N. Division Pinehurst, ID 83850	Project: BHCTP	Sampled: 19-Jan-15
		Received: 19-Jan-15
		Reported: 20-Jan-15 14:49

LAB #	W5A0249-01	-	-	-	-	-	-
SAMPLE ID	KT-01-19-15	-	-	-	-	-	-
		01/19/2015 07:30	-	-	-	-	-
		Reporting Limit	-	-	-	-	-
<b>Metals (Total) (Water)</b>							
Cadmium	0.0100 mg/L	0.0999	-	-	-	-	-
Lead	0.0500 mg/L	0.531	-	-	-	-	-
Manganese	0.0200 mg/L	60.6	-	-	-	-	-
Zinc	0.0200 mg/L	53.0 [1][3]	-	-	-	-	-
<b>Classical Chemistry Parameters (Water)</b>							
pH	pH Units	3.08 [2]	-	-	-	-	-
Total Susp. Solids	mg/L	71.0	-	-	-	-	-

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Ferguson Contracting 901 N. Division Pinehurst, ID 83850	Project: BHCTP	Sampled: 21-Jan-15
		Received: 21-Jan-15
		Reported: 22-Jan-15 11:50

LAB #	W5A0281-01	-	-	-	-	-	-
SAMPLE ID	006-01-21-15	-	-	-	-	-	-
Reporting Limit	01/21/2015 06:00	-	-	-	-	-	-
<b>Metals (Total) (Water)</b>							
Cadmium	0.0100 mg/L	0.0056 [2]	-	-	-	-	-
Lead	0.0500 mg/L	<0.0038 [4]	-	-	-	-	-
Manganese	0.0200 mg/L	16.9 [3]	-	-	-	-	-
Zinc	0.0200 mg/L	0.183	-	-	-	-	-
<b>Classical Chemistry Parameters (Water)</b>							
pH	pH Units	6.95 [1]	-	-	-	-	-
Total Susp. Solids	5.0 mg/L	1.0	-	-	-	-	-

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Ferguson Contracting 901 N. Division Pinehurst, ID 83850	Project: BHCTP	Sampled: 22-Jan-15
		Received: 23-Jan-15
		Reported: 26-Jan-15 09:04

LAB #	W5A0359-01	W5A0359-02	W5A0359-03	W5A0359-04	-	-
SAMPLE ID	KT-01-22-15	PTM-01-22-15	OC-01-22-15	CTP00-01-22-15	-	-
Reporting Limit	01/22/2015 07:30	01/22/2015 07:30	01/22/2015 07:30	01/22/2015 07:00	-	-
<b>Metals (Total) (Water)</b>						
Cadmium	0.0100 mg/L	0.0723	1.07	1.07	0.0611	-
Lead	0.0500 mg/L	0.495	0.0416 [2]	0.0480 [2]	0.311	-
Manganese	0.0200 mg/L	76.1	-	0.412	-	-
Zinc	0.0200 mg/L	38.8	10.1	10.2	0.748	-
<b>Classical Chemistry Parameters (Water)</b>						
pH	pH Units	3.30 [1]	7.39 [1]	7.39 [1]	-	-
Total Susp. Solids	5.0 mg/L	63.0	0.8 [2]	0.8 [2]	-	-

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Ferguson Contracting 901 N. Division Pinehurst, ID 83850	Project: BHCTP	Sampled: 23-Jan-15
		Received: 23-Jan-15
		Reported: 26-Jan-15 13:41

LAB #	W5A0356-01	-	-	-	-	-	-
SAMPLE ID	006-01-23-15	-	-	-	-	-	-
Reporting Limit	01/23/2015 06:00	-	-	-	-	-	-
<b>Metals (Total) (Water)</b>							
Cadmium	0.0100 mg/L	0.0047 [2]	-	-	-	-	-
Lead	0.0500 mg/L	<0.0038 [4]	-	-	-	-	-
Manganese	0.0200 mg/L	15.2 [3]	-	-	-	-	-
Zinc	0.0200 mg/L	0.188	-	-	-	-	-
<b>Classical Chemistry Parameters (Water)</b>							
pH	pH Units	6.94 [1]	-	-	-	-	-
Total Susp. Solids	5.0 mg/L	1.6	-	-	-	-	-

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Ferguson Contracting 901 N. Division Pinehurst, ID 83850	Project: BHCTP	Sampled: 26-Jan-15
		Received: 26-Jan-15
		Reported: 26-Jan-15 09:06

LAB #	W5A0386-01	-	-	-	-	-	-
SAMPLE ID	KT-01-26-15	-	-	-	-	-	-
Reporting Limit	01/26/2015 07:30	-	-	-	-	-	-
<b>Metals (Total) (Water)</b>							
Cadmium	0.0100 mg/L	0.0733	-	-	-	-	-
Lead	0.0500 mg/L	0.508	-	-	-	-	-
Manganese	0.0200 mg/L	73.5 [2]	-	-	-	-	-
Zinc	0.0200 mg/L	38.7 [2]	-	-	-	-	-
<b>Classical Chemistry Parameters (Water)</b>							
pH	pH Units	3.34 [1]	-	-	-	-	-
Total Susp. Solids	5.0 mg/L	64.0	-	-	-	-	-

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Ferguson Contracting

901 N. Division

Pinehurst, ID 83850

Project: BHCTP

Sampled: 26-Jan-15

Received: 26-Jan-15

Reported: 27-Jan-15 15:11

LAB #	W5A0385-01	-	-	-	-	-	-
SAMPLE ID	006-01-26-15	-	-	-	-	-	-
Reporting Limit	01/26/2015 06:00	-	-	-	-	-	-
<b>Metals (Total) (Water)</b>							
Cadmium	0.0100 mg/L	0.0047 [2]	-	-	-	-	-
Lead	0.0500 mg/L	<0.0038 [4]	-	-	-	-	-
Manganese	0.0200 mg/L	32.3 [3]	-	-	-	-	-
Zinc	0.0200 mg/L	0.243	-	-	-	-	-
<b>Classical Chemistry Parameters (Water)</b>							
pH	pH Units	7.00 [1]	-	-	-	-	-
Total Susp. Solids	5.0 mg/L	1.2	-	-	-	-	-

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Ferguson Contracting 901 N. Division Pinehurst, ID 83850	Project: BHCTP	Sampled: 28-Jan-15
		Received: 28-Jan-15
		Reported: 29-Jan-15 12:11

LAB #	WSA0408-01	-	-	-	-	-
SAMPLE ID	006-01-28-15	-	-	-	-	-
	01/28/2015 06:00	-	-	-	-	-
<b>Metals (Total) (Water)</b>						
Cadmium	0.0100 mg/L	0.0050 [2]	-	-	-	-
Lead	0.0500 mg/L	<0.0038 [4]	-	-	-	-
Manganese	0.0200 mg/L	50.9 [3]	-	-	-	-
Zinc	0.0200 mg/L	0.266	-	-	-	-
<b>Classical Chemistry Parameters (Water)</b>						
pH	pH Units	7.00 [1]	-	-	-	-
Total Susp. Solids	mg/L	5.0	0.8 [2]	-	-	-

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Ferguson Contracting 901 N. Division Pinehurst, ID 83850	Project: BHCTP	Sampled: 29-Jan-15 to 30-Jan-15
		Received: 30-Jan-15
		Reported: 02-Feb-15 13:38

LAB #	W5AD459-01	W5AD459-02	W5AD459-03	-	-	-
SAMPLE ID	KT-01-29-15	CTPX6-01-29-15	006-01-30-15	-	-	-
Reporting Limit	01/29/2015 07:30	01/29/2015 07:00	01/30/2015 06:00	-	-	-

  

Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.130	0.0507	0.0053 [3]	-	-
Lead	0.0500 mg/L	0.941	0.328	<0.0008 [5]	-	-
Manganese	0.0200 mg/L	26.7	-	26.8 [4]	-	-
Zinc	0.0200 mg/L	64.4 [1]	0.768	0.315	-	-

  

Classical Chemistry Parameters (Water)						
pH	pH Units	2.97 [2]	-	6.95 [2]	-	-
Total Susp. Solids	5.0 mg/L	30.0	-	1.6	-	-

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